



Hotel - Upgrade

Courtyard by Marriott®

Louisville, KY

Cree® TrueWhite® Technology helps the Courtyard by Marriott showcase its upscale lobby area while allowing the hotel to realize considerable energy savings. Marriott management is expecting these savings to bring payback on its investment in approximately 15 months.

- Reduced energy consumption by 80 percent
- Designed to last 50,000 hours @ L₇₀
- Active color management offering unprecedented lumen maintenance



CREE® LEDS EXTEND A WARM WELCOME

OPPORTUNITY

The Courtyard Louisville East proudly represents a distinguished brand. The first Courtyard by Marriott® location was built in 1983 in Atlanta and was Marriott's initial sister brand. That brand was always meant to primarily target business travelers who wanted quality service at affordable prices. Over the years though, it has come to cater to the leisure traveler as well.

A new-style lobby for Courtyard by Marriott locations across the country debuted in 2008, offering guests a variety of upscale amenities. The lobby now includes a redesigned restaurant/bar area, The Bistro, offering a variety of breakfast and dinner options, an evening bar and specialty beverages; an expanded business center area; a more modern lounge and seating area; and expanded areas for The Market, a small store in the lobby.

To showcase its beautifully redesigned lobby and maximize energy efficiency, Courtyard Louisville East went shopping for a top-shelf lighting system.

SOLUTION

Hotel management selected Cree.

The Courtyard Louisville East lobby now features Cree CR6™ LED downlights, with each downlight consuming only 9.5 watts. Cree downlights blend beauty and performance with the same superior light quality as traditional fixtures but at a fraction of the energy used.

The lights lend an improved color quality to the new red and orange furniture, thanks to Cree TrueWhite® Technology. This patented technology delivers high efficiency with beautiful light characteristics and color accuracy, while maintaining color consistency over the life of the product.

In all, 54 Cree CR6 LED downlights replaced 65-watt BR30 light bulbs. At up to 64 lumens per watt, the CR6 has the highest luminaire efficacy of any residential ENERGY STAR® qualified downlight.

Fifteen Cree LBR-30™ LED lamps, which use only 12 watts, went into the lobby, replacing 65-watt BR30s. Also powered by Cree TrueWhite® Technology, Cree lamps provide an unrivaled combination of 92+ CRI and up to 74 lumens per watt efficacy.

Using this new technology, Cree's LBR-30 delivers light with beautiful, warm color characteristics by mixing the light from red and yellow LEDs, while their high efficacy and longevity significantly reduce both energy and maintenance costs.

Additionally, an administrative office received a lighting upgrade with two Cree LR24™ LED troffers, and two CR24™ troffers were placed in the fitness room. The LR24 luminaire is a revolutionary architectural lay-in designed for applications that require high-ambient light levels, and the CR24 troffer delivers up to 5,000 lumens of exceptional 90-plus CRI light while achieving 90 to 110 lumens per watt.

Cree architectural troffers demonstrate technical ingenuity at its finest, delivering a superior mix of performance and payback with unmatched longevity and color consistency, all backed by an industry-best fixture warranty.

BENEFITS

When planning this complete lobby renovation, Courtyard Louisville East management expected the modern new furniture to improve the lobby's look. But the results were even better than expected.

The new orange and red furniture appears even more vibrant than management hoped, thanks to the LED lighting from Cree. "The lights really make the color of the furniture pop," says General Manager Larry Carrico, and guests are noticing.

Not only is the light quality striking, but the efficiency of the Cree lighting system means the hotel is saving a considerable amount of energy, as the lobby lights are on 24 hours a day, seven days a week. And since the CR6 LED downlights are dimmable to 5 percent, hotel employees regularly turn them down in the evenings, which helps save even more energy.

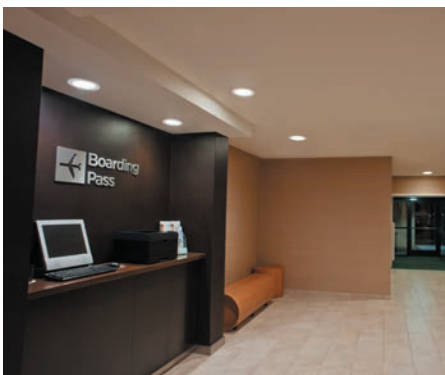
Carrico says the hotel staff used to change burned-out 65-watt incandescent light bulbs about once every four to six months. They haven't had to touch a single LED light since they were installed in August 2010. That's because Cree's CR6 LED downlights are designed to last 50,000 hours, which means the hotel could leave them on 24 hours a day, seven days a week and not have to worry about replacing one for at least five and a half years.

With energy consumption reduced by 80 percent, hotel management is expecting to see a payback of approximately 15 months on its purchase. A wise investment such as this is just one more reason Courtyard by Marriott® is able to extend top-quality accommodations at very affordable prices.



“The colors just pop out; they're so much richer. You can really see the difference.”

Larry Carrico, General Manager,
Courtyard Louisville East



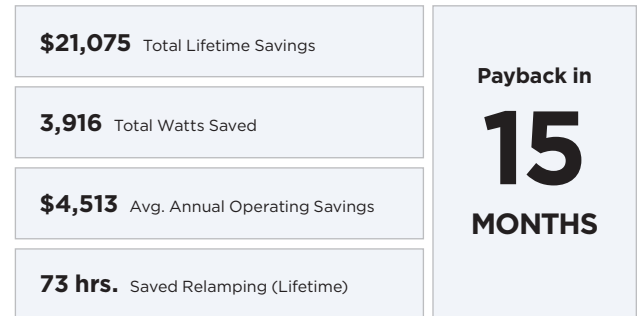


Financial Analysis

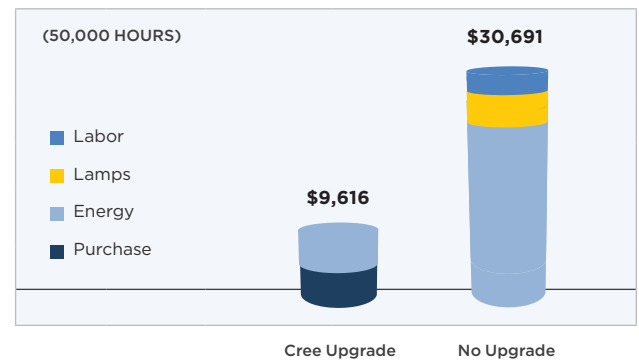
Project Fixture Options

Energy Comparison	Qty	Watts	Total Watts	Energy Savings
Original Lighting				
65W Halogen BR30	54	65	3,510	
65W Halogen BR30	15	65	975	
3-lamp T8	2	90	180	
2-lamp T8	2	60	120	
			4,785	N/A
Cree LED Lighting				
CR6™ downlight	54	9.5	513	
LBR30™ lamp	15	12	180	
CR24™ troffer	2	44	88	
LR24™ troffer	2	44	88	
			869	82%

Estimated Project Savings*



Estimated Total Lifetime Costs*



* To see how these savings were achieved and to calculate your own, please visit: www.cree.com/payback.

Savings and payback are representative of what users could expect operating in a typical hotel environment with comparable products.

IN THIS CASE STUDY

CR6™ DOWNLIGHT

- L 6.25" x W 7.5" dimension
- 575 - 800 lumens
- 9.5 - 12 watts
- 90 CRI
- 2700K CCT
- Up to 50,000-hour lifetime
- 0 - 10V dimming to 5%



CR Series TROFFERS

- 2000 - 5000 lumens
- 22 - 50 watts
- 90 - 110 LPW
- 90 CRI
- 3500K or 4000K CCT
- Up to 50,000-hour lifetime
- 0 - 10V dimming to 5%; step dimming to 50%



LR24™ TROFFER

- L 24" x W 24" x H 5.8" dimension
- 3200 - 3800 lumens
- 52 watts
- 90 CRI
- 3500K CCT
- 120 - 277 VAC
- Up to 50,000-hour lifetime
- 0 - 10V dimming to 5%



LBR-30™ LAMP

- 600 lumens
- 12 watts
- 94 CRI
- 2700K CCT
- Up to 50,000-hour lifetime in open fixtures,
35,000-hour lifetime in non-IC recessed downlights
- Dimming to 20% with ELV dimmers



Cree TrueWhite® Technology begins with the highest performing commercially available LEDs. Cree TrueWhite® Technology mixes the light from red and unsaturated yellow LEDs to create beautiful, warm, white light. This patented approach enables color management to preserve high color consistency over the life of the product. Cree TrueWhite® Technology also enables a CRI of at least 90 while maintaining high luminous efficacy - a no compromise solution.

PARTICIPANTS

End User: Courtyard by Marriott

Engineering Agency: Herndon

Engineering Architect: Thomas
Hamilton & Associates



Join the LED Lighting Revolution.

Learn more at: www.cree.com/lighting | info@cree.com | 800.236.6800

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